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| 14. ABSTRACT Combatant Commanders are required by Joint Doctrine to plan for and execute Combat Search and Rescue Operations (CSAR) within their theaters of operation. Doctrine also requires that component commanders and USSOCOM also be prepared to perform CSAR operations in support of their own component operations. Capabilities, polices, budget, and equipment limitations within the component services means that no single service is prepared to under take CSAR operations without support. Since <i>Operation Desert Storm</i> , Special Operations Forces (SOF) have been assigned the responsibility of theater CSAR operations. CSAR is a collateral mission for USSOCOM, assigning SOF the theater CSAR mission violates current Joint Doctrine. The Doctrine needs to be changed, the USSOCOM mission list needs to be modified, CSAR should be moved from a collateral mission to a principal mission. The CSAR assets of the US Air Force – aircraft and aircrews should be reassigned to an Air Force SOF unit assigned to USSOCOM. Creation of a Joint Special Operations CSAR Task Force (JSOCTF) under the theater Special Operations Command (SOC) would allow for the development of a C ² structure that would provide the Combatant Commander with a force structure that was trained, manned and equipped to perform CSAR operations anywhere within the theater battlespace. | | | | | |
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**NAVAL WAR COLLEGE
Newport, R.I.**

**REALIGNING JOINT DOCTRINE FOR EFFECTIVE THEATER COMBAT SEARCH
AND RESCUE (CSAR) OPERATIONS**

**By
George F. Morgan
Civilian GS-15**

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the Department of the Navy, or the National Imagery and Mapping Agency.

Signature:_____

16 May 2003

**Steven Kornatz, Captain, US Navy
JMO Faculty Advisor**

I will never leave a fallen comrade to fall into the hands of the enemy and under no circumstances will I ever embarrass my country.

Extract from the *US Army Ranger Creed*

Personnel Recovery has another practical aspect – it's the right thing to do... It's good for morale. By pledging to put every effort into recovering our highly trained soldiers, sailors, airmen and marines, we send a powerful signal about their importance and help sustain their spirits under the stress of combat.

General Hugh Shelton, USA
Chairman Joint Chiefs of Staff
Remarks at *1999 DoD Personnel Recovery Conference*

Personnel Recovery, Search and Rescue, and Combat Search and Rescue ain't sexy. Therefore, it's not a priority.

Major General Nels Running, USAF Retired
Remarks at *2001 DoD Personnel Recovery Conference*

Why are we even talking about this? We are here to discuss aviation and strike warfare. CSAR is an expensive waste of our time and assets.

Unidentified Senior Naval Aviator
1997 Tactical Aviation Strike Conference

Personnel Recovery is clearly not a priority for the Services or the theater commands and components

*Mission Area Analysis and Business Process
Reengineering for Personnel Accounting and
Recovery – ANSER October 2000*

CSAR is an ancillary capability; it does not help CINCs win wars.

and

CSAR is my number one issue on a day-to-day basis.

Lieutenant General Maxwell Bailey, USAF
Commander, Air Force Special Operations
Command
Conflicting Comments at 2001 DoD Personnel
Recovery Conference

I

INTRODUCTION

Joint Force Commander's CSAR Responsibility

Joint Doctrine states “Each Service and the US Special Operations Command are responsible for performing combat search and rescue (CSAR) in support of their own operations.”¹ Additionally, Joint Doctrine requires that “Unit commanders should be prepared, based on inherent capabilities, to conduct CSAR in support of their own operations and to provide mutual CSAR support to other units.”² Doctrine also states that Joint Force Commanders (JFCs) normally delegate CSAR responsibility to the assigned joint force component commanders. Further, component commanders are required to plan and conduct component CSAR operations while executing the JFC's campaign and operations plans. Since the *Vietnam War* there has been a decline in component service CSAR capabilities due to higher mission requirements and budgetary priorities within the military services.

CSAR Dilemmas and Thesis

Combatant Commanders are faced with several dilemmas regarding CSAR. They are required to plan for the recovery of isolated military personnel, i.e. to conduct CSAR operations within the command Area of Operations. However, this requirement conflicts with the Joint Doctrine requirement that each military service (within their assigned functional areas) and US Special Operations Command (USSOCOM) be responsible for performing CSAR in support of their own operations. Are the assigned component commanders prepared for or capable of undertaking CSAR operations? In theory, component CSAR forces are designed to react to the recovery of personnel from their

specific component service. However, capabilities, policies, budget and equipment limitations make the potential for successful component CSAR operational recovery increasingly remote with the potential for the loss of forces involved in a recovery operations increasingly high. Increasingly, assigned Special Operations Forces (SOF) have been tasked with the CSAR mission because of their unique capabilities in various threat environments. Using the limited resources and personnel of these forces for CSAR detracts from other vital SOF missions.

Changes in aircraft tactics and employment policies since *Operation Desert Storm* have resulted in fewer CSAR opportunities for aircrews downed deep in enemy territory. The few successful recent CSAR operations were publicized to the extent that the rescued service member and their rescuers are given hero status. Unsuccessful CSAR missions or the losses of soldiers where no CSAR missions were ever launched are left unpublicized. Until the recovery of a support soldier during *Operation Iraqi Freedom*, the US military has not attempted the rescue a service member being held by a hostile force since the unsuccessful 1970 Son Tay Raid during the *Vietnam War* and the 1980 attempt to rescue Americans being held hostage in the American Embassy in Iran.

It is the thesis of this paper that while CSAR operations are a necessary requirement in a theater of operations, the component services are neither adequately trained nor equipped to perform such operations. The trend toward the near exclusive use of assigned theater Special Operations Forces to conduct CSAR operations violates current Joint Doctrine, removing SOF forces from their principal mission responsibilities. A separate CSAR organization under USSOCOM, assigned to the theater Special Operations Command (SOC), is needed. Such an organization would have specific

training, equipment, intelligence support and doctrine to locate and rescue isolated personnel well forward of friendly front lines, in addition to locating and recovering personnel who may be in enemy hands. Better recovery aircraft and communications/identification devices are needed so that isolated personnel can be identified, located, and recovered.

II

History of CSAR

The modern concept of CSAR, using air assets, began during the *Franco-Prussian War* and has continued to be refined since then. CSAR peaked in techniques and tactics during the *Vietnam War*. Military downsizing and subsequent changes in doctrine following that war has resulted in a CSAR force that is inadequate for the modern battlefield. *Operation Desert Storm* and subsequent operations are replete with missed opportunities and CSAR operations, which were run on the fly and nearly missed their objective, the rescue of an American Service member. A short history of CSAR is included in Appendix A.

III

Evolution of CSAR Since *OPERATION DESERT STORM*

The Goldwater-Nichols Department of Defense (DoD) Reorganization Act of 1986 (GNA) was the most comprehensive defense reorganization since the 1947 National Security Act. The GNA was designed to speed the unification of the United States Armed Forces by changing the way the military services are trained, commanded, and employed.³ The GNA strengthened the concept of Combatant Commands with specific authority and responsibilities, establishing a separate USSOCOM independent of the

component services with its own funding. The act also required all services to incorporate their doctrines into single joint publications to “enhance the effectiveness of the armed forces,” including joint CSAR doctrine.⁴

GNA placed the thrust of joint operations on the Unified Commands. However, a joint CSAR force was not incorporated into the command force structure, leaving CSAR instead under the control of each individual service. This seriously limits the JFC’s choices when being confronted with a CSAR mission. The JFC does not have a designated rescue unit available for immediate response in a crisis; the forces that are available are spread among the various services and the theater SOC. These forces have no clearly defined CSAR chain of command and have little to no experience training or working together. Doctrine for Joint CSAR has been designed around DoD Directive 2310.2, Personnel Recovery, which states that:

Preserving the lives and well-being of US military, DoD civilian and contract service employees placed in danger of being isolated, beleaguered, detained, captured or having to evade while participating in a US sponsored activity or mission is one of the highest priorities of the DoD. The DoD has a moral obligation to protect its personnel, prevent exploitation of its personnel by adversaries, and reduce the potential for captured personnel being used as leverage against the US.⁵

This directive forms the basis for Joint Pub 3-50.2, Doctrine for Joint CSAR, which provides the guidance for the services and USSOCOM in the conduct of CSAR. The publication puts “joint and service doctrine into a single-source publication and provides the guidance and procedures necessary to plan, coordinate and conduct a timely and tailored joint CSAR response across the range of military operations.”⁶ While Joint CSAR Doctrine is an effort to address pre-*Operation Desert Storm* CSAR issues, it does not fully incorporate the services’ and USSOCOM’s capabilities into a single

organization that provides unity of effort, centralized planning and direction, and decentralized execution as required by Joint Special Operations Doctrine.⁷

Joint Doctrine requires that each service and USSOCOM provide their own dedicated CSAR capability. The theater component commanders are required to provide organic CSAR command and control (C²) infrastructures necessary to conduct CSAR operations for the JFC. It is presumed that each component commander has adequately trained personnel to staff and operate component specific Rescue Coordination Centers (RCC), providing expertise to the JFC's Joint Search and Rescue Center (JSRC). The function of a component RCC is to coordinate all of the component CSAR activities, including coordination with the JSRC and other components RCCs.⁸ The JFC will normally exercise C² of all forces committed to the CSAR mission through a designated component commander using its RCC as the JSRC (Appendix B).

By design, the designated JSRC commander relies upon the component representatives to provide expertise, serving as the conduit between each RCC and the JSRC. The component representatives are intended to be the links for determining which component capabilities are available for a CSAR effort. In theory and by doctrine, all elements of the CSAR C² organization should collaborate to give the JSRC commander adequate information to coordinate and execute CSAR operations for the JFC. While Joint Pub 3-50.2 describes the joint CSAR C² in detail and in an effort to provide the JFC with the best guidance on organizing his forces, it unfortunately does not adequately consider the capabilities and availabilities of services CSAR forces.

Component Service Capabilities

The CSAR mission is viewed differently by each component service and USSOCOM – with each organization offering varying levels of CSAR capabilities to the JFC. The following priorities given to the CSAR mission by service and USSOCOM spotlight this disparity:

- US Army – Secondary Mission⁹
- US Navy – Primary Mission/Secondary Priority¹⁰
- US Marine Corps – Implied Tasking¹¹
- US Air Force – Primary Mission¹²
- SOCOM –Collateral Mission¹³

The US Army CSAR capabilities are considered limited due to a lack of dedicated CSAR units or aircraft. The US Army aviation, medical evacuation (MEDEVAC), and watercraft units could be assigned CSAR missions, but adequate protection would be required to be used in semi-permissive or non-permissive operational environments. Organic capabilities within the US Army make CSAR an option to be employed during certain circumstances for the JFC. A briefing by the US Army Aviation Warfighting Center following operations in Kosovo indicated, “maneuver training centers indicate low levels of CSAR proficiency among Army Aviators. Additionally a review of operations during *Task Force Hawk* revealed the Army’s inability to plan and execute CSAR and Personnel Recovery operations.”¹⁴

While the US Navy considers CSAR a primary mission, US Navy doctrine does not have a single plan to deal with CSAR; it is instead dealt with as an extension of other missions. Over 50% of the US Navy’s dedicated CSAR capabilities remain in the Naval Reserves within its two Helicopter Combat Support Squadrons (HCS).¹⁵ The remaining US Navy CSAR assets come from selected units in its helicopter antisubmarine warfare

squadrons (HS), which are organic to each carrier battle group (CVBG). These units are trained to conduct day and night CSAR as well as naval special warfare operations in hostile environments. This results in the CVBG CSAR-capable units having multiple primary missions, causing prioritization problems during strike missions that use the same assets. It should also be noted that on a typical aircraft carrier, only three of eight assigned helicopter crews are fully trained to perform CSAR missions. Additionally, US Navy HH-60 and MH-53 CSAR aircraft suffer from inflight refueling limitations that restrict their capability for long-range missions. A lack of sufficient KC-130 tanker support and aircrew training adds further limitations to the conduct of long-range CSAR missions by the US Navy.

The US Marine Corps has limited helicopters with inflight refueling capabilities, hampering their extended range capability for CSAR and Tactical Recovery of Aircraft and Personnel (TRAP) missions. Despite this handicap, the US Marine Corps demonstrated the ability to use their available assets and TRAP capabilities in performing CSAR in the Bosnian rescue of Captain Scott O'Grady, USAF. Joint Pub 3-50.2 states "the Marine air-ground task forces (MAGTFs) do not routinely train to conduct the search portion of CSAR and view CSAR as an implied tasking that should not detract from primary functions."¹⁶ While the US Marine Corps is capable of supporting the JFC's CSAR mission with its organic TRAP capabilities, the JFC must weigh mission priorities when considering the use of the MAGTF as a primary CSAR force.

CSAR is considered a primary mission by the US Air Force, which has the largest force structure dedicated to the CSAR mission. This force consists of over 100 HH-60s (inflight refueling capable) and 30 KC-130s (not inflight refueling capable), of which the

majority are assigned to the National Guard and Reserves.¹⁷ In addition to hardware, the US Air Force supports the JFC's CSAR mission with specially trained pararescue forces (PJs), RCC controllers, and SAR duty officers. Theoretically the US Air Force CSAR capability is designed to provide a core of rescue forces dedicated to the component air forces and the JFC. In actuality budget cuts have resulted in the US Air Force's inability to produce sufficient numbers of PJs, RCCs, and helicopters equipped to operate in high-threat or all-weather conditions.¹⁸ Despite Joint Doctrine, US Air Force service doctrine reflects that CSAR is more of an afterthought, as well as lacking joint consideration. US Air Force Manual 2-36, Search, Rescue, and Recovery Operations, states that "operational control of specific CSAR forces may be passed to the air component commander of a joint force," indicating that the US Air Force is willing to turn over control of its SAR forces. US Air Force doctrine furthers the view that rescue is a secondary mission by stating, "it is impractical to establish a static SAR force structure of sufficient strength to have forces close at hand, regardless of area."¹⁹ As with the other services, the US Air Force is unable to fully support the Combatant Commanders CSAR requirement – a recurring reality that prompts the JFC to turn to theater SOC capabilities during conflicts.

The theater SOC CSAR capabilities are inherent in USSOCOM's forces, equipment, and training.²⁰ The theater SOC offers the JFC a joint CSAR capability that can include US Air Force SOF, US Army SOF and US Naval Special Warfare Units (NSWU), which can operate in an all-weather and high threat environments. USSOCOM has MC-130 aircraft, as well as multiple types of US Army and US Air Force helicopters (MH-53, MH-47, and MH-60) all of which are able to perform multiple missions and are

capable of inflight refueling for extended range operations. In addition to the previously listed aircraft, USSOCOM also employs AC-130 close air support gunships to provide fire support to NSWUs, US Army SOF, and US Air Force Special Tactics Teams when they are conducting a CSAR mission.²¹ Dedicated Special Operations Forces Command and Control Elements (SOCCE) and Special Operations Forces Liaison Elements (SOLE) provide the Joint Special Operations Component Commander (JFSOCC) a robust C² for all assigned forces. However, currently theater SOC is neither manned nor trained to conduct CSAR as a primary mission²² and tasking a theater SOC as the primary JTF CSAR provider potentially limits the ability of that theater SOC to respond to other missions assigned by the JFC.

Taking into consideration the services and USSOCOM capabilities, the JFC could form a powerful CSAR force. But the limitations of the individual services equipment, personnel and training would make it difficult, at best, for any single service to be the primary JFC CSAR provider. Additionally, having each service provide robust CSAR capabilities within a theater of operations is redundant. It does not provide unity of command or unity of effort to carry out a CSAR operation. While CSAR Joint Doctrine presumes a certain degree of component service CSAR capabilities, that capability is currently lacking in each of the services.

IV

Recommendations

Since the first DoD Personnel Recovery Conference in 1996, recurrent conference themes have been that CSAR is dysfunctional in the services and that the current service capabilities and joint doctrine do not support the JFC. In 1999 DoD

appointed Commander US Joint Forces Command (USJFCOM) as the executive agent for personnel recovery. USJFCOM established the Joint Personnel Recovery Agency (JPRA) as the office of primary responsibility (OPR) to address personnel recovery matters. JPRA was a merger of the Joint Services Survival Escape Resistance Evasion (SERE) Agency (JSSA) and the Combat Search and Rescue Agency (CSARA). The JPRA mission is to identify and implement fundamental and significant organizational changes in coordinating personnel recovery (PR) issues among military departments, combatant commands, the Joint Chiefs of Staff, the Joint Staff, Office of the Secretary of Defense (OSD) and defense agencies, DoD field activities, and other governmental agencies. While JPRA has been able to identify service and operational shortcomings of CSAR capabilities and oversee and improve some elements of joint CSAR training, the overall function and doctrine of JFC CSAR are far from being corrected.

Joint Doctrine needs to be changed; CSAR should be made a principal mission for USSOCOM. Press reporting during *Operation Enduring Freedom* in Afghanistan and even more recently during *Operation Iraqi Freedom*, has indicated that US Air Force and US Army SOF units in the theater of operations were tasked to perform all CSAR operations that were undertaken. Since *Operation Desert Storm*, theater SOC has been continuously tasked to support the various JFC CSAR missions. Unless doctrine and service capabilities drastically change, this tasking trend will continue. The result of this tasking trend has been ineffective theater CSAR capabilities with a C² structure lacking unity of CSAR command and effort for the JFC. Changing the USSOCOM CSAR mission from a collateral to a principal mission, would allow the development of an effective C² structure for CSAR within the existing USSOCOM designs. While theaters

SOCs have been accomplishing CSAR as a primary assigned mission, USSOCOM must train, equip, and organize SOF to conduct CSAR as a principal mission, rather than a collateral mission. Principal mission status would promote the integration of CSAR tactics, techniques, and procedures into SOC planning and joint mission employment. This would allow for the formation of a Joint Special Operations CSAR Task Force (JSOCTF) under the theater SOC. Such an organization would be similar to, but separate from, the current Joint Special Operations Task Force (JSOTF). To implement this concept, it would be necessary to combine US Army, US Navy, and US Air Force CSAR units and forces under a single SOF commander who reports to USSOCOM.

Implementation of the JSOCTF in peacetime under the theater SOC would provide the Combatant Commander with a capable CSAR force ready for wartime. As with other SOF organizations, a Special Operations CSAR organization would have all of their personnel, equipment and training requirements vetted through USSOCOM insuring that a ready CSAR force, with an organic C² capability, would be deployable to any theater as required. Inherent to the development of this concept and organization is the formation of a dedicated intelligence element that would identify a survivor's location, even when captured and imprisoned. Establishment of a JSOCTF would allow the theater SOC and subordinate unit commanders to manage a dedicated CSAR force and ensure that the element's assets are not being multi-tasked with other SOF missions. If additional CSAR assets were required in a theater, the theater SOC would request augmentation through the USSOCOM chain of command (described in current SOF doctrine).²³ A dedicated CSAR force, intelligence element, and C² staff would be key to implementing a JSOCTF prepared to support a JFC.

Command relationships for this proposed CSAR force would flow directly to the Joint Force Special Operations Component Commander (JFSOCC). The JFSOCC would use its established Joint Operations Center (JOC) for CSAR C² and rescue operations liaison elements (ROLE)²⁴ to coordinate CSAR operations for all the component services. The ROLE would be responsible for integrating capabilities between the JSOCTF and CSAR forces

This proposed CSAR force would come from the existing service's CSAR capabilities, meaning that the bulk of the force would come from the US Air Force – both aircraft and aircrews. Since USSOCOM has the lead in providing CSAR to theater commanders, and the new concept organization would be heavily US Air Force, that organization should be established under US Air Force Special Operations Command (AFSOC). This structure would achieve unity of command and effort for the CSAR mission. This proposed organization would also provide a single advocate for CSAR and budget for CSAR priorities – these monies are currently lost to redundancy of requirements. The consolidation of the CSAR mission, forces, and budget would provide efficiencies that could compensate for CSAR shortages and provide a dedicated force for both CSAR and SOF missions in all threat environments. The consolidation of CSAR forces under a single commander and the proposed JSOCTF would provide the combatant commanders with a dedicated, highly effective, and flexible CSAR capability for future conflicts.

While the proposed organization would provide the JFC a theater capable CSAR organization, the services would still retain short distance CSAR functions within their respective areas of operations – the US Army would still perform battlefield MEDEVAC,

the US Navy would still perform over water recovery and MEDEVAC of land personnel to ship-borne medical facilities.

V

Future Concerns

The Combatant Commands and USSOCOM are capable of changing tactics, force structure and doctrine, but more difficult to affect is the acquisition of new equipment, particularly in the fields of recovery aircraft and communications. To provide the best technology available to the survivor, the Combatant Commanders and USSOCOM should place CSAR needs high on their Integrated Priority List, in particular:

The current fleet of helicopters used in the CSAR mission is aged. The UH-60 helicopter (of which the MH-60 is the CSAR/SOF variant) first came into US military service in 1979. Modifications to the aircraft have included hoists for lifting survivors from the ground, improved communications suites to coordinate recovery force and escort aircraft actions, and inflight refueling capabilities. Capable of flying 184 miles per hour with an unrefueled range of 504 statute miles,²⁵ the MH-60 is the current “bird of choice” for CSAR and SOF operations. The CH-47 Chinook, the standard Army heavy lift cargo helicopter (the MH-47 is the CSAR/SOF variant) first entered military service in 1961. As with the MH-60, modifications to the MH-47 have included the addition of inflight refueling capabilities. Flying at a speed of approximately 138 miles per hour, the MH-47 has an unrefueled range of approximately 345 statute miles.²⁶ Finally the HH-53 “Jolly Green Giant” first saw military service in the Vietnam War. The MH-53 CSAR/SOF variant is capable of speeds of 165 miles per hour, with an unrefueled range

of approximately 630 statute miles.²⁷ The MH-53 is the CSAR force's best long-range system and as with the other CSAR/SOF helicopters it is capable of inflight refueling.

While special flight tactics make the helicopter force more survivable in a semi-permissive to non-permissive environment, operations well forward of friendly front lines carry a major risk consideration. The V-22 Osprey Tilt-Rotor, a newer, faster, and more maneuverable aircraft, is urgently needed but is currently undergoing acceptance testing. The V-22 will be capable of cruising at approximately 265 miles per hour and will have an unrefueled range of approximately 500 miles.²⁸ The speed and range of the V-22 coupled with a capability for inflight refueling make it the prime airframe to replace the existing CSAR/SOF helicopter fleet.

Improvements in communications systems are necessary for the continued success of CSAR operations. Of particular need is improvement in the survival radio carried by aircrews and covert special operations personnel to report their position directly to rescue forces. Special operations personnel and aircrews with the highest risk of being downed or operating forward of the friendly lines are currently issued a PRC-112 Hook-B Survival Radio. The PRC-112 is equipped with a Global Positioning System (GPS) receiver module to help a downed pilot pinpoint his location and automatically transmit it to search and rescue aircraft.²⁹ It also has a transponder so that rescue forces can identify a downed pilot or covert special operations force. When in range the radio allows personnel on the ground to communicate by voice with rescuers. The basic radio uses 1980s design technology with some modern modifications for GPS and encryption.

The planned replacement for the PRC-112 is the Combat Survivor Evader Locator (CSEL) System. CSEL is planned to be an end-to-end system composed of three segments: a user segment that includes a hand-held radio, an over-the-horizon segment for satellite communications, and a ground segment consisting of multiple command, control, and communications (C³) workstations located in RCCs (see Appendix C. CSEL System Architecture). When fielded, the CSEL system will provide a reliable 24-hour two-way near-real-time secure messaging and voice communications system with a system base station (or other designated user terminal), plus have accurate geopositioning. It is designed to enable recovery forces to authenticate and extract a survivor on the first attempt in all terrain, visibility, and threat conditions worldwide, independent of the isolated person's location or circumstances. Originally scheduled for fielding in 1998, it has been delayed indefinitely because of engineering problems and prime contractor financial problems. The original cost estimate of \$5000.00 a copy will be exceeded as the program has already spent more than \$500 million in research and development costs alone.³⁰

VI

Conclusion

CSAR should be a dedicated mission within the US military. The US military has a responsibility to rescue a soldier when he has fallen in battle and bring him safely home. Current Joint Doctrine requires combatant commanders to plan for and undertake CSAR missions within their theater of operations. Joint Doctrine requires that component commanders and SOC plan for CSAR operations to recover their component losses and the losses of their sister components. Because of training, equipment and

force structure shortfalls, none of the individual services is completely qualified to undertake CSAR missions. Since the formation of Joint Doctrine, Combatant Commanders have levied the CSAR mission in support of theater operations to the SOC Commander. The theater SOC forces are uniquely qualified and equipped to undertake CSAR operations, but doing so takes SOC forces from their other principal missions.

The establishment of a JSOCTF, with all CSAR-unique forces, equipment and training being consolidated and assigned to the AFSOC Commander, will provide the theater commander with a single core of CSAR capabilities and C² structure. The aging US military helicopter fleet needs to be replaced with newer and faster aircraft so that recovery operations can quickly be carried deep into enemy territory. New, more capable survival radios are needed so that isolated personnel can be more quickly and accurately located in the theater battle space.

While these recommendations would provide the combatant commander with a continuous dedicated CSAR force, it will still require backing from all the services to ensure a credible CSAR capability. It will require the development of a doctrine and mindset that capable CSAR missions will be launched in all theater losses, regardless of location in the battle space. While this might not change the daily attitude of the “Unidentified Senior Naval Aviator” quoted at the beginning of this paper, when he finds himself on the ground forward of friendly forces, he will know that a capable and creditable CSAR force is prepared to come and get him and bring him home.

Appendix A

History of CSAR

CSAR is a military operation for the recovery of any service member who is separated from friendly forces in a combat zone or is isolated in some manner deep in enemy territory. The use of aircraft to affect the recovery of these separated/isolated individuals is considered standard. The first known aerial rescue occurred in Paris in 1870, some 33 years before the Wright Brothers flew at Kitty Hawk, North Carolina. To escape the Prussian artillery during the *Franco-Prussian War*, the French used observation balloons to evacuate by airlift some 160 wounded soldiers.³¹

The first recorded use of an airplane to attempt to recover a downed airman occurred at the 1911 Chicago Air Meet when a participant landed his hydroaeroplane on the water to rescue a fellow participant who had crashed into Lake Michigan. The downed pilot refused the rescue, preferring instead to take an approaching boat back to shore.³²

During *World War I*, the French used airplanes to evacuate patients by air from Serbia in 1915.³³ That same year saw the first attempted rescue of a downed airman by another aircrew when American pilot Jimmy Bach flying with the Lafayette Escadrille attempted to rescue his wingman who had crashed following the insertion of saboteurs behind enemy lines. After landing and picking up his downed wingman, Bach crashed on his takeoff attempt and both men were captured.³⁴ The first successful rescue of an airman was credited to Charles H. Hammann, Ensign, US Navy, in the Adriatic Sea flying an Italian built Macchi M-5 flying boat. Seeing his wingman shot down by an Austrian Albatross, Ensign Hammann landed in the sea near the downed airman, recovered him

and returned to Italy. For his actions Ensign Hammann became the first naval aviator to be awarded the Congressional Medal of Honor.³⁵

World War II saw the use of equipment and procedures that would serve as the basis for modern CSAR operations. Germany and England both recognized the need to recover aircrews that crashed into the English Channel or the North Sea. Rescue aircraft were equipped with medical supplies, heated sleeping bags, inflatable dinghies, and sea dyes that could be dropped to a survivor to aid in his survival and eventual recovery by a seaplane or boat. Escort aircraft were assigned to provide protective cover to the rescue aircraft and attempted to keep enemy forces away from the survivor. When the United States entered the war, instead of building their own rescue service from scratch, the US initially combined with the British services and then developed their own techniques and procedures. By the end of the war in Europe the combined efforts of the British and American rescue units claimed 5721 airmen rescued from the waters surrounding Great Britain and an additional 3200 airmen worldwide.³⁶ The China-Burma-India Theater of operations was responsible for two important developments in CSAR – the birth of the Pararescueman³⁷ and the use of the helicopter to rescue personnel from behind the enemy lines.³⁸

After *World War II* the US military recognized the need to maintain a rescue capability, although initial inter-service disputes hampered progress. In March 1946 the Air Rescue Service (ARS) was formed under the Air Transport Command.³⁹ As with the rest of the military, the ARS suffered through the massive demobilization following *World War II*. In 1949 the situation began to improve, with the procurement of new and better aircraft and the recruitment and assignment of sufficient personnel to maintain and

operate the equipment and perform rescues. The *Korean War* saw the use of helicopters in significant numbers to rescue downed airmen from behind enemy lines as a standard procedure. The technique of using fighters to escort rescue aircraft was refined. By the end of the conflict the ARS was responsible for 996 combat rescues, as well as performing the secondary mission of air ambulance services responsible for the air evacuation of over 9898 United Nations soldiers who were ground casualties.⁴⁰

The *Vietnam War* was the crest of the of the CSAR mountain. Innovations included the introduction of newer more powerful rescue helicopters, “Super Jolly Green Giants” (HH-53), capable of higher speeds, longer operating ranges and inflight refueling. The introduction of the Lockheed KC-130, provided an aircraft used for airborne commander duties and as a platform for inflight refueling of mission helicopters. The A-1 Skyraider became the aircraft of choice for Rescue Escort (RESCORT) duty during the war. With excellent endurance, heavy armament, and a relatively slow speed, the A-1 was able to keep track of the helicopters more easily than a jet aircraft. A mix of HH-53s, KC-130s and A-1s were assembled to form Combat Search and Rescue Task Forces.

The *Vietnam War* highlighted two areas of tactics; response times and threat reduction. The sooner a rescue force could get to a downed pilot the better the chances of rescue. Studies showed that 55% of successful rescues occurred in the first hour after a shootdown. Because rescue aircraft in the *Vietnam War* were constantly on alert, but often had large distances to cover, various methods were used to improve response times. One method was to pre-position helicopters at forward operating locations to get them closer to the fight. A similar method, made possible with the introduction of inflight

refueling, was to orbit helicopters and tankers ready to respond to any incident. Upon notification of a downed pilot, the KC-130 would act as an aerial command post coordinating strike and suppression aircraft that would be scrambled from airbases or diverted while in flight. At the same time the A-1s and helicopters would begin to move toward the incident site. The strike and suppression aircraft, along with the A-1s, would attack enemy forces in the area, keeping the downed pilot out of enemy hands and suppressing enemy fire that might be directed at the recovery helicopter as it entered the recovery zone, picked up the survivor, and exited the area.⁴¹

The *Vietnam War* also provided the model that would serve as the basis for planning of Joint Special Operations Forces (SOF) missions in the future. In 1970, a joint force of US Army Special Forces soldiers and US Air Force airmen attempted to rescue Prisoners of War (POW) from the Son Tay prison camp in North Vietnam. While tactically a success with no US casualties, the operation failed because the POWs had been removed from the camp before the raid.⁴²

The *Vietnam War* demonstrated what an effective CSAR system could accomplish. By 1975 there had been 2780 lives saved in combat rescues by dedicated CSAR units.⁴³ Unfortunately, in the process 86 American helicopter pilots, A-1 pilots, and pararescue crew members were lost.⁴⁴

Following the *Vietnam War* the US military began a drawdown of forces, budget constraints forced changes in tactics and missions for all of the services. Both the Navy and Air Force began to put resources into aircraft survivability, at the expense of modernizing rescue capabilities. By 1990 and the build up of forces for *Operations Desert Shield and Desert Storm*, the ARS had been reduced to a single squadron with

only four MH-60 helicopters for the entire Pacific Theater. By contrast, US Air Force Special Operations Command (AFSOC) had MH-60s and MH-53s, while US Army Special Operations Command (ARSOC) was equipped with both MH-60 and MH-47 aircraft. With this force, the Commander, US Central Command (USCENTCOM) formally tasked US Air Forces Special Operations Command Central Command (AFSOCCENT) to conduct CSAR.

Iraq presented major problems for CSAR forces. The desert terrain was inhospitable for successful evasion and the Iraqi military possessed a significant air defense capability, particularly around Baghdad where the majority of the air missions were flown. The distances to be covered in Iraq presented a major difficulty, in many cases due to the amount of time it would take for a rescue force to reach a downed pilot from a forward operating base in Saudi Arabia. Vice Admiral Stan Arthur, commander of naval forces in the Gulf region during *Operation Desert Storm*, reported that a conscious policy was in effect; no CSAR missions would be launched without positive radio contact with a downed pilot.⁴⁵ While this policy prevented CSAR forces from flying into harm's way in an undefined search area, it is also partially responsible for the large volume of questions that remain unanswered today on the fate of F/A-18 pilot, Michael S. Speicher, Lieutenant Commander (LCDR), US Navy, whose aircraft crashed in the early morning hours of 17 January 1991. While a member of the flight formation on the night of LCDR Speicher's loss recorded a near accurate coordinate of the location where the crash site was eventually found (approximately 100 miles north of the Saudi Arabian/Iraqi border) no attempt was made to locate the crash site during *Operation Desert Storm*. Locating and examining the crash site immediately after the loss incident

would have provided a wealth of information about the incident and possible leads that could have helped to determine LCDR Speicher's fate.

Operation Desert Storm also provided the first successful combat rescue since the *Vietnam War*. On 21 January 1991, an F-14 flown by Lieutenants Devon Jones and Larry Slade was shot down by an SA-2 approximately 130 miles inside Iraq. Both aircrew members successfully ejected. LT Slade was captured and held prisoner until the end of the war. An MH-53 with A-10 and F-15 escorts made two trips into Iraq from Saudi Arabia before successfully rescuing LT Jones.⁴⁶

By the end of the war, 13 CSAR missions had been launched in an attempt to rescue 77 personnel. Ultimately five personnel were successfully recovered, two of these by nearby ground forces, but the Iraqis captured 31 American and Allied personnel.

Operation Desert Storm demonstrated that theater SOC forces were capable of performing the theater CSAR mission, but a defined CSAR C² structure was lacking. Subsequent operations would prove to be equally defining for CSAR.

Operation Restore Hope in Somalia demonstrated the need for CSAR training within the SOF when on 3 October 1992, eighteen American soldiers would die at the hands of Somali irregulars. Two MH-60s would crash and one helicopter pilot would spend 10 days in captivity. An unclear and changing mission, inadequate training, poor tactics and problematic rules of engagement defined the United States Somalia experience; the failed CSAR effort highlighted it.

Operation Deny Flight and 2 June 1995 would see the next US CSAR effort, when a Bosnia Serb SA-6 shot down Scott O'Grady, Captain, USAF.⁴⁷ Once again AFSOF was tasked with the CSAR effort, maintaining an MH-53 in Brindisi, Italy,⁴⁸

for on-call support. Captain O’Grady evaded capture for six days before being rescued by elements of the 24th Marine Expeditionary Unit (MEU). While the O’Grady rescue is a classic case of how to conduct a CSAR operation, it also illustrates the problem of communications equipment in the CSAR mission. Captain O’Grady was equipped with a PRC-112 survivor radio, but evading capture in forested terrain blocked his transmission signal. In trying to communicate by voice transmissions, Captain O’Grady nearly exhausted his battery power before he was located and rescued.

During the 78-day Kosovo mission, *Operation Allied Force*, two successful CSAR operations were conducted – first an F-117 was shot down approximately 20 miles from Belgrade⁴⁹ and then an F-16 was downed near the Serbia-Croatia border.⁵⁰ Again the recoveries were conducted using AFSOC assets, MH-60s and MH-53s.

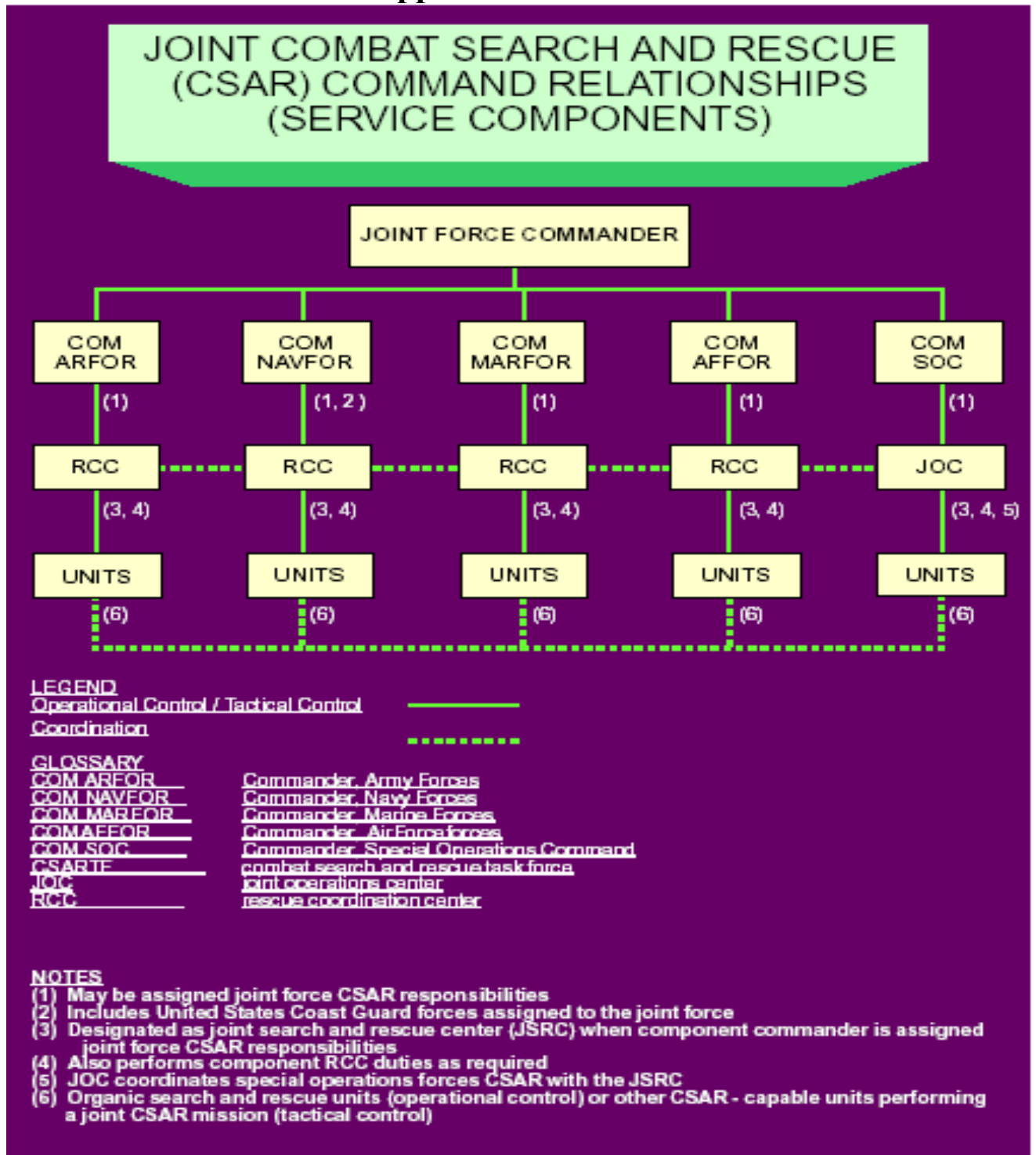
While *Operation Allied Force* provided two successful CSAR operations, left out of the publicity and the spotlights was the fact that three US Army enlisted personnel were abducted from Macedonia and held captive by the Serbians for over 32 days.⁵¹ During their entire time in Serbia, their location was unknown to Allied forces; therefore no rescue operations were planned or attempted.

The record of *Operation Enduring Freedom* is still being examined, but in the Afghanistan area of operations, with few exceptions, the majority of the 19 aircraft losses have been helicopters. While most of the aircraft losses have occurred in areas controlled by friendly forces or in sight of friendly forces, approximately 20 personnel died in these incidents.⁵² One notable development was the use of an Unmanned Aerial Vehicle (UAV) to locate and monitor the status of a downed aircrew while a battle raged around them during Operation Anaconda.⁵³

Finally during *Operation Iraqi Freedom*, our most recent conflict, where only one US aircraft loss was attributed to enemy action. In that single incident the crew of a USAF F-15 was lost, but their remains were recovered after several days. In another single incident, six service members from a single unit were captured and held captive. Another eight members of the unit were killed and buried by Iraqi forces. Shortly after that incident, Iraqis captured two crewmembers of an Army Apache helicopter. When SOF rescued one of the service members from an Iraqi hospital, she became the first service member to be rescued from captivity since World War II. Eventually the remaining members of the captured unit, as well as the two Apache crewmembers were safely recovered after being abandoned by their Iraqi captors and guards.⁵⁴

As the after action reports for *Operations Enduring Freedom and Iraqi Freedom*, are written and studied new concepts and doctrine for CSAR may result. But whatever results, the US military will continue to work to rescue and recover their fellow service members fulfilling the US Army Ranger Creed, “*I will never leave a fallen comrade to fall into the hands of the enemy....*”

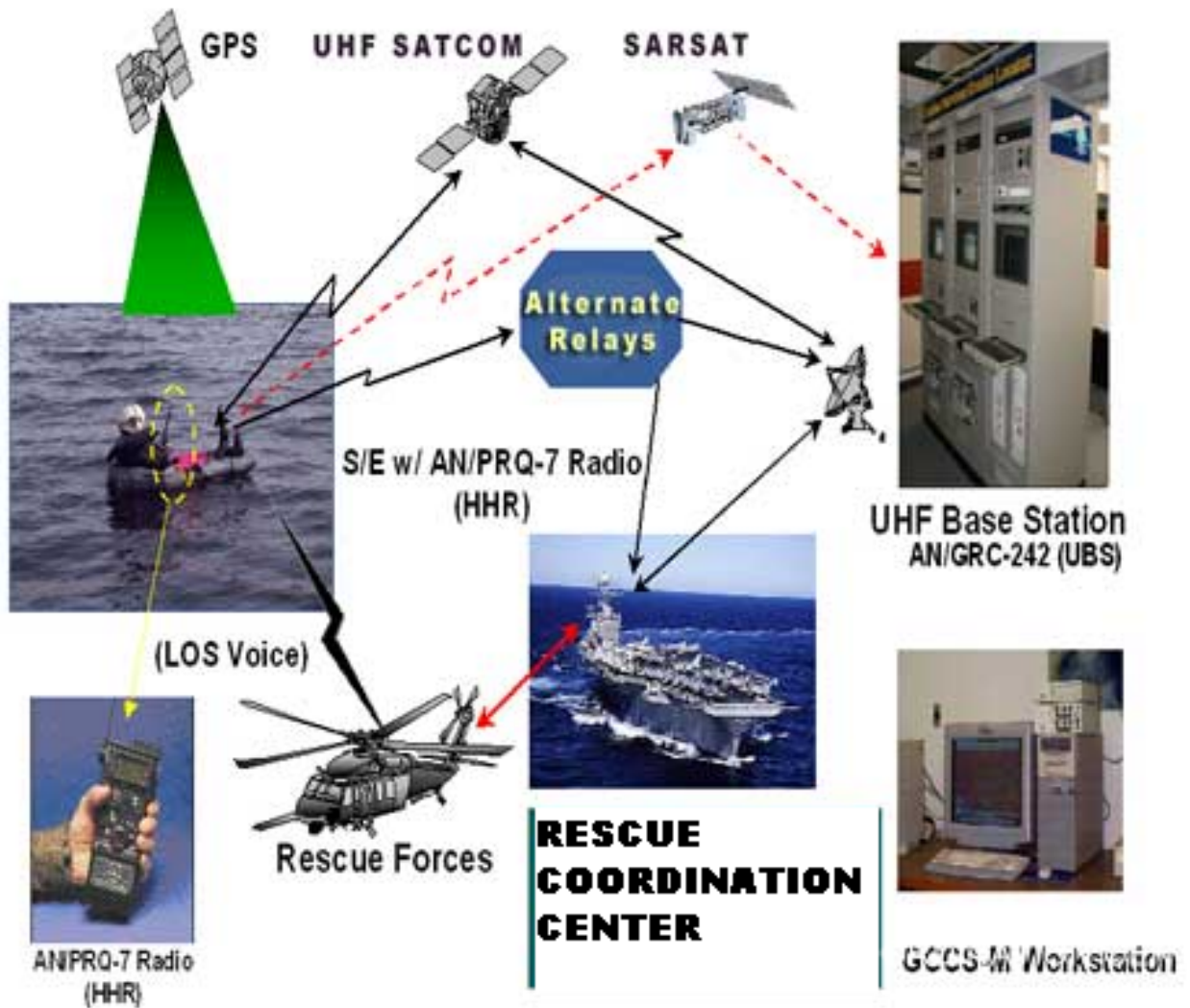
Appendix B



JCSAR Command Relationships (Service Components)¹

¹ Joint Chiefs of Staff, Doctrine for Joint Combat Search and Rescue, Joint Pub 3-50.2 (Washington, D.C.: 26 January 1996), III-2.

CSEL System Architecture



CSEL SYSTEM ARCHITECTURE²

² "CSEL System Architecture." Lkd. Combat Survivor/Evader Locator (CSEL) at "Navstar Global Positioning System Joint Program Office Page." <http://gps.losangeles.af.mil/csel/System.htm/>>

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- ⁸ Joint Publication 3-50.2, I-3.
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- ¹⁰ Ibid B-1.
- ¹¹ Ibid C-1.
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